

POLICY BRIEF



(Source: Julio Araujo, 2016)

Using environmental psychology to increase the use of climate information

KEY MESSAGES

- Climate services can be improved by understanding climate change risk perceptions
- This policy brief outlines concrete ways in which climate services can be better tailored to the East African context, based on risk perceptions

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Introduction

Current efforts to respond to short-term and long-term climatic variability and change are not necessarily being informed by climate services. Much climate services literature points to this gap being a result of a poor match between how climate information is produced, designed and communicated, and the local context and information needs. Therefore, there is room for improvement in climate services, in order to make them more appealing and accessible for specific audiences.

Due to the significant risks posed by climate variability and change, understanding people's perceptions of risk (i.e. their risk perceptions) offers a rich entry point for understanding the local user context and what drives action on weather and climate risks. This knowledge can, in turn, be used to understand how the drivers of risk perceptions (and action) influence the use of climate information within a user group, providing a knowledge base from which to a) design more context-relevant climate services, and b) design climate services that are more suited to motivating action.

The WISER TRANSFORM project developed a study to understand the user context of policy decision influencers in east Africa. Policy decision influencers are the people who have either a direct or indirect effect on the countries' actions or policies regarding natural resource management. These may include, for instance, governmental officials, NGO practitioners, researchers, development agency staff and others. These individuals are a particularly important audience because of their potential to introduce and entrench both short- and long-term adaptation initiatives. Therefore, an understanding of the factors that drive their risk perceptions and action provides valuable understanding for designing more effective, contextually-specific climate services.



Approach

This study had three goals.



First goal: improve the link between climate action and use of climate services

The first goal was to strengthen the link between the actions taken by policy decision influencers on climate adaptation, and their use of climate services, by considering how to develop climate services that better account for the various factors that drive people's actions – in other words, the action context. Ideally, the action context should be explored at both individual and structural (wider social, economic, institutional, political and regulatory) levels.

In this project, particular focus was paid to the individual level, as relatively little attention has been paid to this level in the climate services and adaptation fields. The project collected data on the factors that drive or impede people's actions at the level of the individual, how they interrelate, and what their relative contribution to action is, so that climate services can be developed that better match this action context. Many factors determine how people perceive climate risks, and therefore whether they take or don't take action on them. For this project, the following factors were chosen for investigation: social norms; psychological distance/closeness of climate change (a measure of a person's personal perception of climate change as either close or far away in space, time, socially or hypothetically); experience of past extreme weather events; values; and demographic variables (gender, age and education).



Second and third goals: maximise the use and uptake of climate services

The second goal was to maximise the use and uptake of climate services by designing climate services that best fit, or respond to, how and what climate information is currently being used by policy decision influencers (and that meets their needs). The third goal was to maximise the use and uptake of *specific* different types of climate information (timescales, "pure climate" vs. "impacts" information, and formats) among policy decision influencers.

The approach for achieving these goals was to 1) gather information on the current use of different types and sources of climate information, and the desired use for these; and then 2) to develop explanations for patterns in use and preferences based on the understanding gained from individual and structural level factors.



Methods

Data were gathered through a wide-reaching structured survey. The survey targeted over 600 participants across five east African countries of Ethiopia, Kenya, Rwanda, Tanzania and Uganda. This survey was then followed by 36 semi-structured interviews in Kenya and Ethiopia in order to explore and explain the survey results in greater detail, including by collecting data on the factors that drive or impede people's actions at the structural level, where this information arose naturally through the interview process.

Through statistical analysis of the questionnaire survey results, including correlation analyses, regression analyses and structural equation modelling, and through qualitative (thematic) analysis of the interview results, the following recommendations for how to better design and deliver climate services to an east African policy decision influencer audience were developed.



Analysis and recommendations

Designing climate services in response to the individual level context

1 Accounting for social norms

Social norms around action on climate change and use of climate information have the biggest influence on action on climate change amongst the east African policy decision influencer community. Social norms can be defined as the shared ideas about “the right way to behave”, the unwritten rules of behaviour that are considered acceptable in a group or society. Therefore, using techniques that align with social norms have potential to increase the use of climate services. These include:

- Having respected or well-known figures publicly endorse the desired use of climate services. For instance, rural communities may be very influenced by messages from community leaders, tribal chiefs or elders, and religious communities may be strongly influenced by messages from religious leaders.
- Hosting interactive or reflection processes that highlight the desired use of climate services amongst other groups or people. This approach includes, for example, hosting collective discussions between selected users, using drama skits with personal experiences, or simulated situations.
- Including strategic messages within climate services products that highlight the frequency of certain desired behaviours amongst a population. For instance, if one wanted to increase the use of a certain climate information timescale within a sector, an example message may be “80% of professionals in the water sector in Kenya are using climate change projections for the 2080s to plan their infrastructure projects”.
- Creating climate services material that outlines what other similar groups are doing in terms of climate services use. An example message, if the target audience were, for instance, urban local authorities, might be along the lines of “many African cities are using global climate model projections to plan their development”.

2 Accounting for psychological distance

The psychological distance of climate change has a big influence on people’s climate change risk perceptions, in turn influencing action. Amongst the east African policy decision influencers, climate change was found to be psychologically close. This knowledge can be used to design climate services products that better align with this user group by:

- Continuing to provide short-term (monthly to seasonal) forecasts to these communities, in combination with longer term projections. Given that climate change was psychologically close in the sample, when policy decision influencers consider planning for climate change, they may not view it as planning for the distant future only, but as making decisions in the here and now as well. In addition, it is recommended to provide possible impacts and a proposed suite of solutions alongside climate projections, which speaks to the kind of concrete and solutions-based information people in a state of psychological closeness need to inform their decisions.
- Presenting information visually because people in a state of psychological closeness react better (are more likely to take action) to information presented this way. For instance, infographics or clear maps may be more impactful than written reports or raw data. Infographics were also suggested by interview respondents to be particularly useful for non-technical communities, so their use could be increased.
- Presenting information in terms of losses (negatively framed information) as opposed to gains (positively framed information), because people in a state of psychological closeness are more likely to take action on information presented in terms of losses (as long as options for action are also highlighted). For instance, when communicating the risk of flooding, a loss-framed message may be: “deaths from Malaria may rise by 10% by 2030 unless insecticide-treated net programmes are expanded”, whereas a gains-framed message may be “expanding insecticide-treated net programmes will prevent deaths from Malaria rising by 10% by 2030”.

3 Accounting for experience of past extreme events

Experience of extreme weather events has a big influence on psychological closeness and climate change risk perceptions, and, in turn, action. Experience of extreme events (and, through the interviews, of climate events or impacts more broadly) was found to be high amongst the east African policy decision influencer community, particularly changes to rainy season patterns, high temperatures and flooding events. This knowledge can be used to design climate services products that better align with the user group and motivate action by:

- Tailoring weather/climate information to the emotional experiences of the audience. These kinds of messages often have more impact and can lead to greater public attention. For instance, scenarios, narratives and analogies can help the audience to engage with climate information and envisage a future where the potential consequences of climate change are played out.
- Using past experiences of extreme weather/climate events as an entry point for engagements. This personalises the engagement and increases the relevance for the audience. These extreme events experiences can also be used as entry points for introducing risks that will be posed by future climate change, but may not currently be a concern.

4 Accounting for age, gender, education and personal values

Values underlie the moral make-up of a person and guide their actions, attitudes and choices. Two opposing groups of values were chosen for this study (self-enhancing values and self-transcending values). Self-enhancing values are exemplified by the pursuit of self-interest and centre around the attempt to stand out from others through the acquisition of money, status, and the like. Self-transcending values focus outside of the individual self towards the greater good of fellow humans and the environment. People with more self-transcending values generally have higher climate change risk perceptions and are more likely to take associated actions, and people with more self-enhancing values have lower climate change risk perceptions and actions.

In the sample of east African policy decision influencers, two socio-demographic characteristics (gender and education) had an effect on the types of values respondents held. Increased education was positively related to self-transcending values, and in turn these increased climate change risk perceptions and then climate action, as would be expected. Being male was positively related to holding more self-enhancing values, and these values were not related to higher climate change risk perceptions, as would also be expected. However, and contrary to expectations, individuals with self-enhancing values still reported taking climate-relevant action. The analyses suggest that this is because of the influence of social norms: the more respondents held self-enhancing values, the more likely they were to report noticing/feeling that there were norms requiring them to act on climate change and use climate information in their job. Therefore, the effect of social norms seems able to “overcome” the negative effect of self-enhancing values on climate change risk perceptions, which would normally drive down climate action. The third socio-demographic characteristic, age, was positively correlated with both increasing education and greater observance of social norms.

These findings can be used to design climate services products that better motivate climate change action amongst the user group by:

- Focusing on how to leverage social norms to achieve greater use and uptake of climate services, given that it is likely, for many countries, that men will dominate the policy influencers sphere (and may therefore hold greater self-enhancing values).
- Increasing capacity amongst users of climate services by providing, for example, targeted short courses that fill educational gaps. This has the potential to increase self-transcending values and, in turn, climate change risk perceptions and action.
- Targeting older policy decision influencers for engagement (when the social norm is to take action on climate change) given that older policy decision influencers are more likely to have higher education levels, and as such higher self-transcending values, and to observe social norms. Particularly because older policy decision influencers will likely hold more senior roles in their organizations and thus have greater decision-making influence.
- Explicitly choosing to work more closely with the women already represented within the policy decision influencer community, as women are known to have lower self-enhancing values and they were also found, in the study, to already be using longer-term climate information more than men.

Designing climate services in response to the structural level context

Action is also shaped by factors beyond the level of the choices made by individuals. These external structural influences may include the institutional or policy context as well as mandates, resources and facilities. Some findings on this structural context have applicability in informing the design and delivery of climate services. These include:

- Climate action is skewed towards short-term needs in sectors of most importance for the country's immediate development priorities – particularly the water and agriculture sectors. Therefore, the uptake of climate information products might be increased by focusing on consequences of climate changes for a country's development, i.e. impacts information, particularly for the sectors of greatest priority in each country.
- For encouraging longer-term action, and therefore the use of longer-term information, the climate services field can focus its impacts information on communications in a way that highlights potential current and future losses from not taking action on climate variability and change, rather than focusing on current and future gains from taking action. The reason is that people tend to give more weight to the threat of a loss than to the opportunity to gain (where losses and gains are of equal amount).
- To take effective adaptation action, respondents need localised climate products. The climate services field needs to consider whether it is scientifically feasible to provide climate information at finer spatial resolutions, and for which areas and sectors in a country this information is particularly needed.
- Country governments were seen to prefer short-term action plans, likely because of short-term electoral cycles that push a need for "quick, demonstrable wins" by politicians for their electorate. The literature has however highlighted that political champions can have key roles to play in driving action on climate-related issues. Therefore, the climate services field may consider engaging with political actors and political parties, or with organizations that do so.

Designing climate services to better fit the current climate information use context

The current use of different types and sources of climate information, and the desired use for these, along with the likely explanations for these patterns, also hold lessons for the design and delivery of climate services.

The countries' National Meteorological Services (NMSs) emerged as significant influencers of what climate information people use because of their authority as a government-approved/mandated information source. Recommendations for NMSs include:

- Continuing to strengthen the collaborations between individual country NMSs and other international bodies in order to build in-country capacity for ongoing research and development of forecasting products (for which there is high demand among users), development of user-oriented products and communication. In particular, enhanced partnerships between NMSs and research institutions (both local and international) that can assist in broadening the capacity to deliver reliable climate services (given that many respondents reported using alternate information sources, mostly international bodies, for verifying, validating or improving NMS forecasts).
- Acting as conduits for the dissemination of longer-term information (such as global climate models or downscaled information) produced through a variety of international and regional centres, because east African NMSs do not produce their own long-term climate change information. This strategy may assist in gaining the necessary trust for using longer-term projections and overcoming the existing social norm to concentrate attention on observed/historical and short-term (forecast) information for planning. Where NMSs have the potential to add value to these externally-produced projections, the development of country-specific guidance for how to use and apply these longer-term climate change projections is valuable. This guidance can be co-produced through a user-producer dialogue, thereby drawing on sectoral and thematic expertise to maximise the utility of the guidance for application.
- Acting as hubs in which projected impacts information can be centrally produced, given that the demand for forecasted impacts information is high but there is currently an uneven, mostly sectorally-based production of impacts information. One way of going about this is to convene groups of sector-specific stakeholders/experts together with NMS staff to produce more detailed information on forecasted impacts that span priority sectors.
- Continue the current focus on supply of observed and seasonal climate information, as there was a high desire for this kind of information amongst the sample. However, there are ways in which these products can be improved upon. The integration of indigenous community knowledge (pastoral forecasting methods) with modern technology-driven forecasts was considered to be potentially very useful because neither method alone was seen to be "complete". Therefore, a combination of indigenous and scientific forecasts, for instance in the seasonal forecast, may increase the uptake of seasonal forecasts amongst certain groups.

Finally, the use of different types of climate information appeared to be strongly linked to the current climate services that are produced and available. Therefore, placing effort on making more types of climate information available, and "advertising" their availability, may change the types of climate information that policy decision influencers start using – particularly if one works with the country NMSs.



Conclusion

The availability of climate services products alone does not guarantee their use. In order for climate services to be effective and user-relevant, they need to be tailored to the needs and unique contexts in which they are applied. This study has offered many useful insights for how to achieve the design and tailoring of climate services in order to maximise their potential use in taking action on climate variability and change among east African policy decision influencers (and potentially among other policy decision influencers communities in sub-Saharan Africa).

About WISER TRANSFORM

The Weather and Climate Services for Africa (WISER) programme's mission is to deliver transformational change in the quality, accessibility and use of weather and climate information services at all levels of decision making for sustainable development in Africa. WISER is a programme of the UK Department for International Development (DFID) which is split into two components: one Pan-African, managed by the African Climate Policy Center (ACPC); and the other focused on East Africa, managed by the Met Office, based in the UK. Under the East Africa component, the TRANSFORM project was tasked with better understanding how to improve the supply of climate information in a manner that is relevant and responsive to the context and needs of climate services users (and therefore increase the likelihood of uptake and use of climate information) through an environmental psychology approach.

The TRANSFORM project is a consortium led by SouthSouthNorth with the Climate System Analysis Group (CSAG) at the University of Cape Town, global consulting services company, ICF, the Overseas Development Institute (ODI) and the International Research Institute for Climate and Society (IRI) at Columbia University.

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